



EFW 2131

PATENT

Case Docket No. VANM256.001AUS

Date: December 10, 2003

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Cerf et al.
Appl. No. : 10/615,490
Filed : July 7, 2003
For : HIGH-RATE QUANTUM KEY
DISTRIBUTION SCHEME
RELYING ON
CONTINUOUSLY PHASE
AND AMPLITUDE-
MODULATED COHERENT
LIGHT PULSES
Examiner : Unknown
Group Art Unit : 2131

I hereby certify that this correspondence and all marked attachments are being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

December 10, 2003

(Date)

Raimond J. Salenieks, Reg. No. 37,924

TRANSMITTAL LETTER

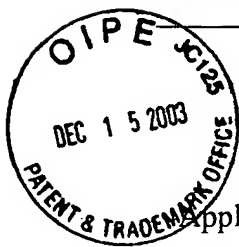
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Enclosed for filing in the above-identified application are:

- (X) An Information Disclosure Statement.
- (X) A PTO Form 1449 with thirty-two (32) references.
- (X) The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment, to Account No. 11-1410.
- (X) Return prepaid postcard.

Raimond J. Salenieks
Registration No. 37,924
Agent of Record
Customer No. 20,995
(619) 235-8550



INFORMATION DISCLOSURE STATEMENT

Applicant	:	Cerf et al.
App. No.	:	10/615,490
Filed	:	July 7, 2003
For	:	HIGH-RATE QUANTUM KEY DISTRIBUTION SCHEME RELYING ON CONTINUOUSLY PHASE AND AMPLITUDE-MODULATED COHERENT LIGHT PULSES
Examiner	:	Unknown
Group Art Unit	:	2131

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Enclosed is form PTO-1449 listing 32 references that are also enclosed.

This Information Disclosure Statement is being filed before the receipt of a first Office Action on the merits, and presumably no fee is required in accordance with 37 C.F.R. § 1.97(b)(3). If a first Office Action on the merits was mailed before the mailing date of this Statement, the Commissioner is authorized to charge the fee set forth in 37 C.F.R. § 1.17(p) to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: December 10, 2003

By: Raimond J. Salenieks
Raimond J. Salenieks
Registration No. 37,924
Agent of Record
Customer No. 20,995
(619) 235-8550



FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
VANM256.001AUSAPPLICATION NO.
10/615,490INFORMATION DISCLOSURE STATEMENT
BY APPLICANT

(USE SEVERAL SHEETS IF NECESSARY)

APPLICANT
Cerf et al.FILING DATE
July 7, 2003GROUP
2131

U.S. PATENT DOCUMENTS

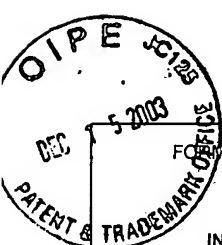
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)	
	1.	Gisin, N., Ribordy, G., Tittel, W. & Zbinden H., <i>Rev. Mod. Phys.</i> 74 , 145 (2002)
	2.	Hillery, M., Quantum cryptography with squeezed states, <i>Phys. Rev. A</i> 61 , 022309-1—022309-8 (2000)
	3.	Ralph, T. C., Continuous variable quantum cryptography, <i>Phys. Rev. A</i> 61 , 010303(R)-1—010303-4 (1999)
	4.	Ralph, T. C., Security of continuous-variable quantum cryptography., <i>Phys. Rev. A</i> 62 , 062306-1—062306-7 (2000)
	5.	Reid, M. D., Quantum cryptography with a predetermined key, using continuous-variable Einstein-Podolsky-Rosen correlations, <i>Phys. Rev. A</i> 62 , 062308-1—062308-6 (2000)
	6.	Gottesman, D. & Preskill, J., Secure quantum key distribution using squeezed states, <i>Phys. Rev. A</i> 63 , 022309-1—022309-18 (2001)
	7.	Cerf, N. J., Lévy, M. & Van Assche, G. Quantum distribution of gaussian keys using squeezed states, <i>Phys. Rev. A</i> 63 , 052311-1—052311-5 (2001)
	8.	Bencheikh, K., Symul, Th., Jankovic, A. & Levenson, J.A., Quantum key distribution with continuous variables, <i>J. Mod. Optics</i> 48 , 1903-1920 (2001)
	9.	Cerf, N.J., Iblisdir, S. & Van Assche, G., Cloning and cryptography with quantum continuous variables, <i>Eur. Phys. J. D</i> 18 , 211-218 (2002)
	10.	Silberhorn, Ch., Korolkova, N. & Leuchs, G., Quantum key distribution with bright entangled beams, <i>Phys. Rev. Lett.</i> 88 , 167902-1—167902-4 (2002)
	11.	Grosshans, F. & Grangier, Ph., Continuous variable quantum cryptography using coherent states, <i>Phys. Rev. Lett.</i> 88 , 057902-1—057902-4 (2002)

EXAMINER	DATE CONSIDERED
*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.	



FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (USE SEVERAL SHEETS IF NECESSARY)	ATTY. DOCKET NO. VANM256.001AUS	APPLICATION NO. 10/615,490
	APPLICANT Cerf et al.	
	FILING DATE July 7, 2003	GROUP 2131

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)	
	12.	Cerf, N.J., Ipe, A. & Rottenberg, X., Cloning of continuous variables, <i>Phys. Rev. Lett.</i> 85 , 1754-1757 (2000)
	13.	Cerf, N.J. & Iblisdir, S, Optimal N-to-M cloning of conjugate quantum variables, <i>Phys. Rev. A</i> 62 , 040301(R)-1—040301-3 (2000)
	14.	Grosshans, F. & Grangier, Ph, Quantum cloning and teleportation criteria for continuous quantum variables, <i>Phys. Rev. A</i> 64 , 010301(R)-1—010301-4 (2001)
	15.	Duan, L.-M., Giedke, G., Cirac, J. I. & Zoller, P., Entanglement purification of gaussian continuous variable quantum states, <i>Phys. Rev. Lett.</i> 84 , 4002-4005 (2000)
	16.	Poizat, J.Ph., Roch, J.-F. & Grangier, P., Characterization on quantum non-demolition measurements in optics, <i>Ann. Phys. (Paris)</i> 19 , 265-297 (1994)
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	18.	Grosshans, F. & Grangier, Ph., Reverse reconciliation protocols for quantum cryptography with continuous variables, <i>E-print arXiv:quant-ph/0204127-1—0204127-5</i> (April 2002)
	19.	Nguyen, K., <i>Extension des Protocoles de Réconciliation en Cryptographie Quantique</i> , Master Thesis, table of contents, (Université Libre de Bruxelles, Bruxelles, 2002)
	20.	Bennett, C.H. & Brassard, G., Quantum cryptography: Public key distribution and coin tossing, <i>Proceedings of the IEEE International Conference on Computers, Systems, and Signal Processing, Bangalore, India</i> , 175-179 (IEEE, NewYork, 1984)
	21.	Brassard, G. & Salvail, L., Secret-key reconciliation by public discussion, <i>Advances in Cryptology - Eurocrypt'93, Lecture Notes in Computer Science</i> , 410-423 (Springer-Verlag, New York, 1993)
	22.	Van Assche, G., Cardinal, J. & Cerf, N.J., Reconciliation of a quantum-distributed Gaussian key, <i>E-print arXiv:cs.CR/0107030</i> (2002)
	23.	Maurer, U. M. & Wolf, S., Information theoretic key agreement : from weak to strong secrecy for free, <i>Advances in Cryptology - Eurocrypt 2000, Lecture Notes in Computer Science</i> , 351-368 (Springer-Verlag, New York, 2000)
	24.	Maurer, U.M., Secret key agreement by public discussion from common information, <i>IEEE Trans. Inform. Theory</i> 39 , 733-742 (1993)
	25.	Bennett, C. H., Brassard, G., Crépeau, C. & Maurer, U.M., Generalized privacy amplification, <i>IEEE Trans. on Inform. Theory</i> 41 , 1915-1935 (1995)
	26.	Carter, J.L. & Wegman, M.N., Universal Classes of Hash Functions, <i>J. of Comp. and Syst. Sci.</i> 18 , 143-154 (1979)
	27.	Schönhage, A., Schnelle Multiplikation von Polynomen über Körpern der Charakteristik 2, <i>Acta Informatica</i> 7 , 395-398 (summary in English) (1977)
	28.	Brent, R.P., Larvala, S. & Zimmermann, P., A fast algorithm for testing irreducibility of trinomials mod 2, <i>Tech. Rep., Oxford University Computing Laboratory</i> , 1-16 (2000)
	29.	Braunstein, S.L. & Pati, A.K., Quantum information with continuous variables, table of contents, Kluwer Academic, Dordrecht, 2003
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	31.	Buttler, W.T., Lamoreaux, S.K., Torgerson, J.R., Nickel, G.H., Donahue, C.H., & Peterson, C.G., Fast, efficient error reconciliation for quantum cryptography. <i>E-print arXiv:quant-ph/0203096</i> (2003)
	32.	Grosshans F., Van Assche G., Wenger J., Brouri R., Cerf N. J. & Grangier Ph., Quantum key distribution using gaussian-modulated coherent states, <i>Nature</i> 421 , 238-241 (2003)

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